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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,910	09/18/2003	Kazuo Kudo	16869G-087100US	7077

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,910

Applicant(s)

KUDO ET AL.

Examiner

Nikolas J. Uhler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/18/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 11/01/02. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

2. Applicant's information disclosure statement dated 09/18/03 has been considered. A signed and initial copy of this document accompanies this office action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi et al. (US6507464) in view of Chen et al. (US6776891).

5. The limitations "wherein said magnetic layers are plated films" in claim 1, "wherein said magnetic layers are formed via electroplating in a plating bath having a pH value of 2 or less" in claim 2, "wherein the magnetic layers are formed in a plating bath containing saccharin sodium as a stress relaxing agent," in claim 3, "wherein the plating bath contains sodium saccharin in an amount of 0.5-2g/L," in claim 4, and "the magnetic films are plated films," and "the plated magnetic film is a soft magnetic thin film formed by electroplating in a plating bath having a pH value of 2 or less" in claim 5

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are process limitations in a product claim and do not appear to be further limiting in so far as the structure of the product is concerned. Even though product claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

6. Regarding claim 1, Ohashi discloses a thin film magnetic head comprising an inductive head and a magnetoresistive head. The inductive head comprises a lower magnetic pole (2), a gap layer 4, and an upper magnetic pole (1) (column lines 49-55). The magnetoresistive head comprises a lower shielding layer (6), an insulating layer (8), a magnetoresistive element (7), and an upper shielding layer (5) (column 3, lines 55-65). Exact position of the components of the inductive and magnetoresistive heads is shown in figure 1 of the reference and so will not be described here. It is the examiners position that the head disclosed by Ohashi corresponds to a thin film magnetic head having multiple magnetic layers.

7. Ohashi discloses that at least one of the poles in the inductive head is preferably formed of a CoFeNi soft magnetic film (column 3, lines 8-15). The saturation magnetization of the CoFeNi thin films is disclosed to be in the range of 20-23kg (column 3, lines 49-53). While Ohashi does not teach the CoFeNi that meets the saturation magnetization or composition limitations required by the instant claims,

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Ohashi does teach that magnetic materials with higher saturation magnetization are needed so as to enable magnetic recording heads to record on magnetic materials with high anisotropy energy (column 2, lines 32-46).

8. Bearing the above in mind, Chen teaches a method for manufacturing ultra high saturation magnetic moment soft magnetic films, wherein said soft magnetic films are suitable for use in the fabrication of magnetic write heads for high density recording media (title and column 3, lines 5-10). In particular, Chen teaches the formation of a $\text{Co}_{100-a-b}\text{Fe}_a\text{M}_b$ film, where M can be Ni and wherein a is 63-67 wt% and B is 0-0.5 wt% (column 3, lines 53-58). Though the process limitations of the instant claims are not deemed by the examiner to further limit the claims, the examiner notes that Chen electroplates these films from a plating bath that can contain sodium saccharin as a stress reducing agent (column 4, lines 29-50). The pH of the bath is in the range of 2-4 (column 5 table). Thus, the process of Chen is substantially the same as that disclosed by the applicant.

9. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the $\text{Co}_{100-a-b}\text{Fe}_a\text{Ni}_b$ (where a is 63-67 and b is 0-0.5) soft magnetic film taught by Chen for the CoFeNi film utilized in the inductive write head taught by Ohashi.

10. One would have been motivated to make this modification in view of the fact that the CoFeNi thin film taught by Chen has a higher magnetization than that disclosed by Ohzaki, and is specifically disclosed to be useable in magnetic write heads for high density recording media. This would especially motivate one of ordinary skill in the art in

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view of the teaching in Ohashi that higher saturation magnetization materials are desirable because they can record on media that have higher recording density and higher magnetic anisotropy energy.

11. Claims 2-5 are met as set forth above. The examiner further notes that the specific concentration of sodium saccharin required by claim 4 is disclosed in table 2 of the Chen reference ($C_7H_5NO_3S$ is the anion of sodium saccharin).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 571-272-1517. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nju


D. S. NAKARANI
PRIMARY EXAMINER